REMARKS

Summary of the Office Action

Claims 1 and 2 are rejected under 35 U.S.C. § 102 (b) as being anticipated by U.S. Patent No. 5,394,057 to Russell et al. ("Russell").

Claims 1 and 3 are rejected under 35 U.S.C. § 102 (e) as being anticipated by U.S. Patent No. 5,936,350 to Yoshida et al. ("Yoshida").

Claims 1-3 are rejected under 35 U.S.C. § 102 (e) as being anticipated by U.S. Patent No. 6,265,827 to Takahashi et al. ("Takahashi").

Claims 4-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Takahashi.

Claims 10-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

Claims 17-20 are in condition for allowance.

Summary of the Response to the Office Action

Claims 1, 4 and 6 have been amended. New claim 21 has been added. Claims 1-21 are pending.

The specification has been amended to correct minor translation errors.

All Claims Define Allowable Subject Matter

Claims 1-3 are rejected under 35 U.S.C. § 102 (e) as being anticipated by Takahashi. Claims 4-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Takahashi. The instant Office Action asserts that Applicants have not challenged the claim rejections by Takahashi in the Office Action dated June 19, 2002. Applicants respectfully submit that the response filed on May 13, 2003 did address the Takahashi claim rejections. Specifically, Applicants filed a verified translation of the priority document to the instant application, thus

establishing an earlier date of invention than Takahashi, and rendering all claim rejections by Takahashi moot. Applicants respectfully direct the Examiner's attention to page 6 of the May 13, 2003 response on this point.

Claims 1 and 2 are rejected under 35 U.S.C. § 102 (b) as being anticipated by Russell. Claims 1 and 3 are rejected under 35 U.S.C. § 102 (e) as being anticipated by Yoshida. Applicants have amended claim 1. To the extent the Examiner considers the rejections under 35 U.S.C. § 102 to apply to amended claim 1, the rejections are traversed as being based on a reference that does not teach the novel combination of features recited in amended claim 1.

Amended claim 1 recites a combination of features including "an arc tube having a discharge space including substantially no mercury" and "a low melting point metal halide with a melting point less than or equal to approximately 400°C and a rare gas enclosed at high pressure in a range of approximately 7-20 atms in the discharge space." As described at page 7, ll. 7-10 of Applicants' specification as orignally filed, a sufficiently high arc tube operating temperature can be obtained without employing mercury by making the arc tube markedly smaller so as to promote temperature rise of the arc tube, and by enclosing xenon gas at a higher pressure than in the related art for use as a starter gas. The discharge space 2 may contain at least one type of metal halide and xenon gas at a pressure of approximately 7 to 20 atms, but does not contain mercury. (Page 7, ll. 22-24).

It is respectfully submitted that neither Russell nor Yoshida teach an arc tube having a discharge space including substantially no mercury and a low melting point metal halide with a melting point less than or equal to approximately 400°C and a rare gas enclosed at high pressure in a range of approximately 7-20 atms in the discharge space.

With respect to Russell, the Examiner interprets the term "optionally", at col. 1, line 11 as mercury being or not being part of the discharge fill. Applicants must respectfully disagree with the Examiner's interpretation. As described at col. 2, line 68 to col. 3, line 5 of Russell, "In most cases, mercury will also be a component of the fill. However, as those skilled in the art know, high intensity discharge electrodeless lamps which operate by radio or microwave frequency often contain little or no mercury (essentially mercury free) in the fill or arc tube." Thus, any discharge lamp taught by Russell that contains no mercury must be an electrodeless lamp that operates by radio or microwave frequency. In contrast, the invention of claim 1 is directed to a discharge lamp having "a pair of electrodes facing each other in the discharge space."

At least for the above-described reasons, Applicants respectfully submit that claim 1 is patentable. Claims 2 and 3 depend from claim 1 and recite the same combination of allowable features as claim 1, as well as additional features that further define over the prior art. Applicants respectfully request that the rejections under 35 U.S.C. § 102, of claims 1-3, be withdrawn.

New claim 21 has been added. Applicants respectfully submit that no new matter has been added. Examination of new claim 21 is requested.

The specification has been amended to correct minor translation errors. Applicants submit that no new matter has been added by the amendments to the specification.

Applicants submit that all pending claims are in condition for allowance.

CONCLUSION

In view of the foregoing, Applicants respectfully request reconsideration and the timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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Dated: October 27, 2003 By: _____

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